CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 93-124
NPDES NO. CA0029939

WASTE DISCHARGE REQUIREMENTS FOR:

CITY OF SAN JOSE
INACTIVE STORY ROAD LANDFILL
SAN JOSE, SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. The City of San Jose, hereinafter called the discharger, by application dated March 26, 1993, has applied for issuance of Waste Discharge Requirements under the National Pollutant Discharge Elimination System (NPDES).

2. The Story Road Landfill is located in San Jose near the intersection of Coyote Creek and Interstate 280 (Figure 1). The approximately 60 acre Story Road Landfill was originally the home of the Remillard-Dandini Brick Company. From 1879 to 1957 the Brick Company produced approximately 10 million bricks a year from clay mined from the east bank of Coyote Creek. The clay pit was subsequently used for refuse disposal beginning in 1957. In 1961 the San Jose City Council issued an ordinance condemning the property and established a municipal landfill. The City of San Jose operated the Story Road Landfill as a municipal landfill from 1961 to 1969. The unlined pits in which the refuse was placed were eventually filled to a height of 25 to 30 feet above the original ground surface. Approximately 500,000 cubic yards of refuse were discharged to the Story Road Landfill. According to the City, no records of the type, distribution and quantity of waste discharged at the Story Road Landfill exist.

   The Story Road Landfill is located within 100 feet of a residential neighborhood and a children's playground.

3. On October 21, 1992, the Board issued Order No. 92-125 to the City and other six other property owners prescribing Waste Discharge Requirements for the inactive landfill. Order No. 92-125 required investigation, remediation, monitoring and appropriate closure of the inactive landfill.

4. Groundwater has been contaminated by the landfill waste. The groundwater is also believed to be contaminated from leaking underground fuel tanks that

were installed *in* the waste. The tanks were removed in 1989 by the owner, Santa Clara Transfer Services Inc. The Santa Clara Valley Water District is currently the lead agency with respect to the investigation and cleanup of leaks associated with the underground tanks.

5. Based on the City's second quarter 1993 sampling round, total purgeable petroleum hydrocarbons have been detected as high as 93,000 ppb, TCE has been detected as high as 170 ppb, and cis-1,2-dichloroethene as high as 340 ppb. Monitoring data indicate that between September 1991, and May 1993, the plume has increased in concentration and migrated southwest toward Coyote Creek and the 12th Street Well Field.

6. The San Jose Water Company's 12th Street Well Field is located directly across Coyote Creek (and hydraulically downgradient) from the Story Road Landfill. To date, shallow groundwater contamination from the Story Road Landfill (less than 50 feet below ground surface) has not been detected in the municipal wells that draw water from deeper zones (>250' below ground surface). However, the Board is concerned that if the shallow groundwater pollution at the Story Road Landfill is not contained and cleaned up, it could pollute the deeper municipal supply zones at the neighboring 12th Street Well Field.

   The 12th Street Well Field consists of nine municipal wells that pump a total of approximately 2 million gallons per day of groundwater. Groundwater from this well field is not treated. The quarterly monitoring conducted by San Jose Water Co. exceeds the Department of Health Service's requirements.

7. The discharger seeks to minimize the further migration of groundwater contamination and contain the majority of the affected groundwater by installing an interim groundwater extraction and treatment system. This system will consist of 2 extraction wells that will pump a combined total initial-rate of approximately 43,200 gallons per day (gpd). Extraction flow rates are expected to decrease to a steady state of approximately 9000 gpd after about two years. The extracted groundwater will be treated using a oil water separator, granular activated carbon, and an air stripper. The treated groundwater will be discharged directly to Coyote Creek and South San Francisco Bay.

8. Levels for some EPA priority pollutant metals are stipulated in the Basin Plan, Table IV-1A. Available data indicate that concentrations of metals in the groundwater often exceed the shallow water effluent limitations. In many cases, the presence of metals in groundwater is due to natural factors related to soil and water chemistry, rather than contamination. This is especially true when the very fine particulate matter (suspended sediment) is not filtered out of the groundwater.

   Initial data from unfiltered groundwater samples indicate potential difficulties in meeting effluent limits for copper, lead, and silver. However, these elevated

levels are believed to be at least partially due to the presence of suspended sediment. Since the Story Road Landfill treatment system will include a 50 micron (1/500 cm) filter, the discharge is not expected to exceed the effluent limits.

9. The Board adopted a revised Water Quality Control Plan (Basin Plan) on September 16, 1992. The Basin Plan contains water quality objectives for Coyote Creek and South San Francisco Bay.

10. The existing and potential beneficial uses of Coyote Creek and South San Francisco Bay include:

- Contact and non-contact water recreation
- Wildlife habitat
- Preservation of rare and endangered species
- Fresh water habitat
- Fish spawning and migration
- Industrial service supply
- Navigation
- Ocean commercial and sport fishing
- Shellfishing
- Estuarine habitat

11. The Basin Plan prohibits discharge of wastewater which has "particular characteristics of concern to beneficial uses (1) at any point in San Francisco Bay south of the Dumbarton Bridge and (2) at any point where the wastewater does not receive a minimum initial dilution of at least 10:1 or into any nontidal water, dead-end slough, similar confined water, or any immediate tributary thereof."

12. Exceptions to the prohibitions referred to in Finding 11 are allowed by the Basin Plan and are warranted for this discharge because: (1) the discharger has performed a water reclamation study and determined that reclamation, reuse, or discharge to the POTW is not a viable option, (2) the discharger will provide certification of the adequacy and reliability of the treatment facilities and a plan that describes procedures for proper operation and maintenance of all treatment facilities prior to system start-up, and (3) because receiving water concentrations are expected to be below levels that would affect beneficial uses. Should studies indicate acute or chronic effects not currently anticipated, the Board will review the requirements of this Order based upon Limitation B.1.e.

13. Based upon the criteria in Board Resolution No. 88-160 and on information submitted by the discharger, the Board finds that treated extracted groundwater reclamation, re-use, or discharge to a POTW from the Story Road Landfill is not feasible at this time.

14. The discharger must submit a satisfactory Operations and Maintenance Manual for the treatment system prior to system startup. In addition, the treatment system, by having granular activated carbon, after an air stripper and a oil water separator allows for redundancy that is anticipated to be adequate for the discharge.

15. Available data from the Santa Clara Valley indicate that concentrations of metals in treated groundwater often exceed shallow water effluent limitations. In many cases, the presence of metals in groundwater is due to natural factors related to soil and water chemistry, rather than contamination.

    This discharge is not expected to exceed the shallow water effluent limitations contained in Limitation A.1.

16. The Basin Plan prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin." The discharger's ground water extraction and treatment systems and associated operation, maintenance, and monitoring plan will constitute an acceptable control program for minimizing the discharge of toxicants to waters of the State.

17. Effluent limitations of this Order are based on the Clean Water Act, Basin Plan, State and U.S. Environmental Protection Agency (EPA) plans and policies, and best engineering and geologic judgement. EPA Region IX draft guidance "NPDES Permit Limitations for Discharge of Contaminated Groundwater: Guidance Document" was also considered in the determination of effluent limits.

18. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

19. The Board has notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

20. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and

regulations and guidelines adopted thereunder, shall comply with the following:

A. EFFLUENT LIMITATIONS

1. The effluent, at the discharge point to the storm drain, shall not contain constituents in excess of the limits contained in Table 1:

TABLE 1 - EFFLUENT LIMITATIONS

Constituent	Instantaneous Maximum Limit (ppb)	Basis for Limitation
Organics		
benzene	5	BAT
cis-1,2-dichloroethene	5	BAT
trans-1,2-dichloroethene	5	BAT
tetrachloroethene	5	BAT
1,1,1-trichloroethane	5	BAT
trichloroethene	5	BAT
vinyl chloride	5	BAT
Any other organic compound (as identified by EPA Method 601, 602, or 8270)	5	BAT
Inorganics		
arsenic	190	BP
cadmium	1.1	BP
chromium VI	11	BP
copper	11.8	BP
cyanide	5.2	BP
lead	3.2	BP
mercury	2.4	BP
nickel	160	BP
selenium	5	BP
silver	4	BP
zinc	110	BP
Others		
pH	within range of 6.5 to 8.5	BP
Toxicity to Fish	90% median and 90 percentile value of 70% min.	BP
Total Coliform	Five sample median of 240 MPN/100 ml a maximum of 10,000 MPN/100 ml.	BP

ppb=parts per billion
BAT=Best available treatment economically available
BP=Basin Plan (as amended December 11, 1991,Table IV-1A)

Cd, Cu, Pb, Ni, Ag, and Zn limits calculated at hardness =100mg/l

2. The flow of the discharge shall not exceed 100,000 gallons per day.

3. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.

4. In any representative set of samples, the discharges shall meet the following limit of quality:

   Toxicity: The survival of test fishes in 96-hour static bioassays of the undiluted effluent as discharged shall be a three sample moving median of 90% survival, and a 90 percentile value of not less than 70% survival in a single sample. Static renewal bioassays shall be performed according to protocols approved by the U.S. EPA or the State Water Resources Control Board or published by the American Society for Testing and Materials or American Public Health Association. Two fish species will be tested concurrently. These shall be the most sensitive two species determined from a single concurrent screening of three, using two of the following three test fish species in parallel tests: rainbow trout, fathead minnow, or three-spine stickleback.

B. RECEIVING WATER LIMITATIONS

1. The discharge of wastes shall not cause the following conditions to exist in waters of the State at any place:

   a. floating, suspended, or deposited macroscopic particulate matter or foam;

   b. bottom deposits or aquatic growths;

   c. alteration of temperature or apparent color beyond present natural background levels;

   d. visible, floating, suspended, or deposited oil or other products of petroleum origin;

   e. toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

   a. pH: The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.

   b. Dissolved oxygen: 5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause lesser concentration(s) than specified above, the discharge shall not cause further reduction in the concentration of dissolved oxygen.

   c. Un-ionized ammonia (as N):

      0.025 mg/l annual mean
      0.4 mg/l maximum

3. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

C. PROVISIONS

1. The discharger shall comply with all sections of this order immediately upon adoption by the Board and upon starting any discharge.

2. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.

3. The discharger shall notify the Board if any activity has occurred or will occur which would result in the discharge, on a frequent or routine basis, of any toxic pollutant which is not limited by this Order.

4. Any discharge to a location other than the discharge point(s) specified in this Order will require a modification to this Order or submission of a second NPDES application.

5. The discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits" dated August 1993.

6. This Order expires on October 20, 1998. The discharger must file a report of waste discharge in accordance with Title 23, Division 3, Chapter 9 of the California Code of Regulations no later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

7. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on October 20, 1993.

STEVEN R. RITCHIE
Executive Officer

Attachments: Figure 1 - Location Map
Figure 2 - Site Map
Self-Monitoring Program
Statement of Basis

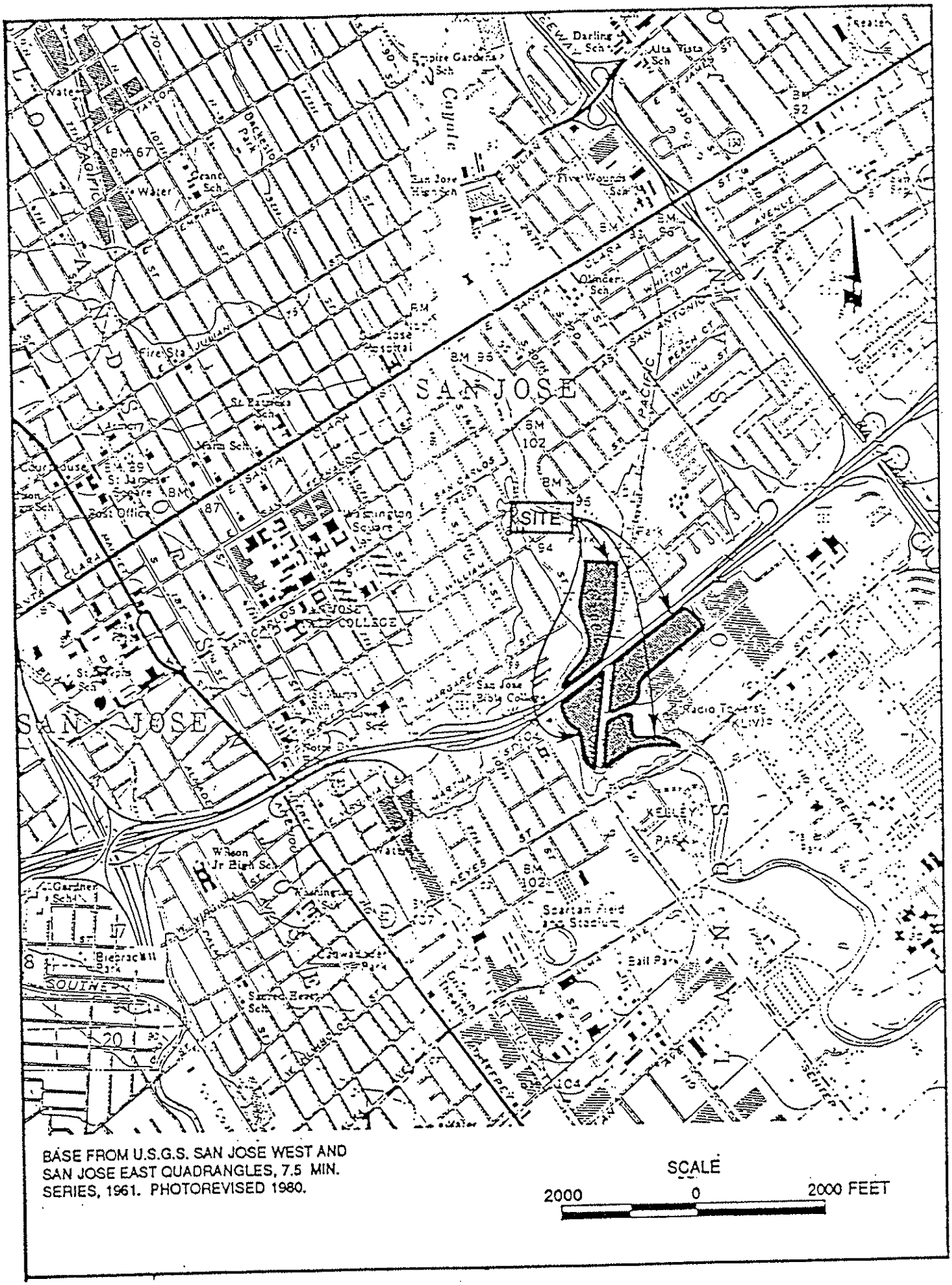


Figure 1 - Location Map - Story Road Landfill, San Jose, Santa Clara County

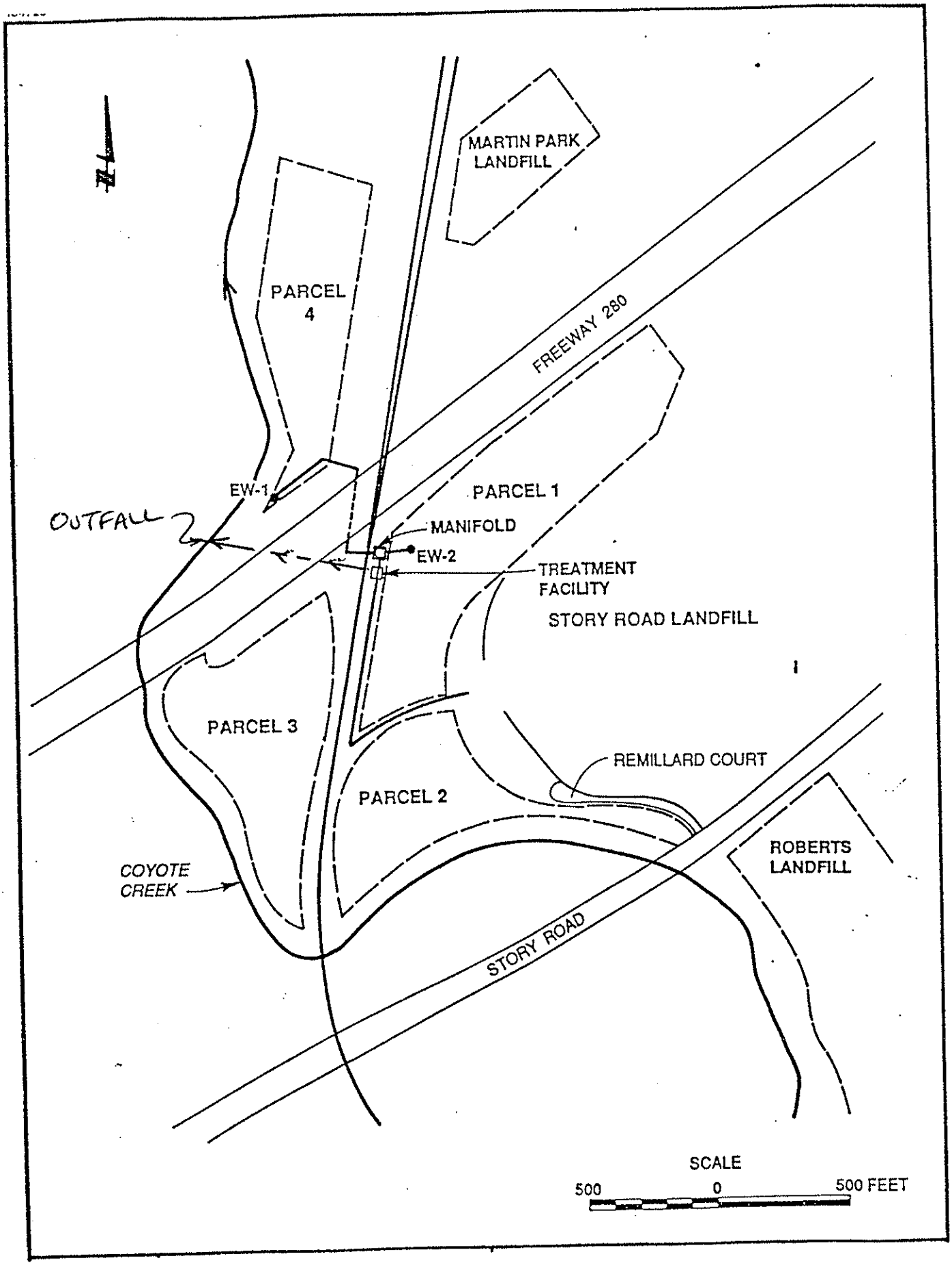


Figure 2 - Site Map - Story Road Landfill, San Jose, Santa Clara County

PART B

CITY OF SAN JOSE
INACTIVE STORY ROAD LANDFILL
SAN JOSE, SANTA CLARA COUNTY

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

Station	Description
I-1	At a point in the groundwater collection system immediately prior to treatment.

B. EFFLUENT

Station	Description
E-1	At a point immediately following treatment and prior to discharge to Coyote Creek.

C. RECEIVING WATERS

Station	Description
C-1	At a point in Coyote Creek at least 100 feet but no more than 200 feet downstream from the discharge point of E-1 into Coyote Creek.
C-2	At a point in Coyote Creek at least 100 feet but no more than 200 feet upstream from the discharge point of E-1 into Coyote Creek.

II. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis is provided in the attached Table A.

III. MODIFICATIONS TO PART A, DATED AUGUST 1993

All items of Self-Monitoring Program Part A, dated August 1993 shall be complied with except for the following:

A. Additions to Part A: Section F.4.d.: "Results from each required analysis and observation shall be submitted as laboratory originated data summary sheets in the quarterly self-monitoring reports. All chromatographic peaks for purgeable halocarbons and/or volatile organics shall be identified and quantified for all effluent samples. If previously unquantified peaks greater than 5 ppb are identified in any effluent sample, then these peaks shall be confirmed based on analyses using chemical standards necessary to achieve proper identification and quantification. Results shall also be submitted for any additional analyses performed by the discharger at the specific request of the Board for parameters for which effluent limits have been established and provided to the discharger by the Board."

B. Deletions from Part A: Sections C.2.a., C.2.c.1), C.2.g., C.4.b., C.5., D.1.d.&e., D.f.1)&2), D.3., D.5., E.3., E.5.a.&b.

C. Modifications to Part A: For the following, the discharger shall comply with the Sections as changed and reported herein:

1. Section C.1. is changed to read:

   "Samples of effluent and receiving waters shall be collected at times coincident with influent sampling unless otherwise stipulated. The Regional Board or Executive Officer may approve an alternative sampling plan if it is demonstrated that expected operating conditions warrant a deviation from the standard sampling plan."

2. Section C.2.e. is changed to read:

   "If any instantaneous maximum limit is exceeded, within 24 hours of receiving the analytical results indicating the violation, a confirmation sample shall be taken and analyzed with 24 hour turn-around time. If the instantaneous maximum is violated in the second sample, the discharger shall notify Regional Board staff immediately. The Executive Officer may order the discharge to be terminated, on a case-by-case basis."

3. In Section E.1, the phrase "(at the waste treatment plant)" is changed to read, "(at the location of the extraction and treatment system or the office of the operators of the treatment system)."

4. Reports submitted in compliance with Section F.4. shall be submitted on a quarterly basis and prepared in a format similar to EPA Form 3320-1. These Quarterly Self-Monitoring Reports

should be submitted on January 15, April 15, July 15, and October 15 of each year beginning with the January 15, 1994 Report. This information shall be submitted only to the Board:

Executive Officer
California Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, CA 94612

5. The Annual Report required in Section F.5. shall be submitted by January 15 of each year in place of the quarterly report due on the same day.

IV. MISCELLANEOUS REPORTING

If any chemicals or additives are proposed to be used in the operation and/or maintenance of the ground water extraction/treatment system, the discharger shall obtain the Executive Officer's concurrence prior to use. The details concerning such approved use shall be reported in the next periodic report submitted to the Board.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 93-124.

2. Was adopted by the Board on October 20, 1993.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger, and revisions will be ordered by the Executive Officer or the Board.

STEVEN R. RITCHIE
Executive Officer

Attachments: Table A. Schedule for Sampling, Measurements, and Analysis
Figure 1 - Location Map
Figure 2 - Site Map

TABLE A
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS
CITY OF SAN JOSE
INACTIVE STORY ROAD LANDFILL
SAN JOSE, SANTA CLARA COUNTY

Sampling Station	I-1	E-1	C-1 & C-2
Type of sample	G	G	G
Flow Rate (gpd)	monthly	monthly	-
Bioassay 96-hr % survival	-	Q/Y	-
Elec. Cond. (umhos/cm)	M/B	M/B	-
Total Coliform		M/Q	Q
Fecal Coliform		M/Q	Q
Ammonia Nitrogen (mg/l & kg/day)	-	V	-
Turbidity (NTU's)	-	Q	-
pH (units)	M/Q	M/Q	Q
Dissolved Oxygen (mg/l and % saturation)	-	Q	Q
Temperature (°C)	M/Q	M/Q	Q
Stand. Obser	-	-	Q
Arsenic (ppb)	-	Q/Y	-
Cadmium (ppb)	-	Q/Y	-
Chromium (hexavalent) (ppb)	-	Q/Y	-
Copper (ppb)	-	Q/Y	-
Cyanide (ppb)	-	Q/Y	-
Lead (ppb)	-	Q/Y	-
Mercury (ppb)	-	Q/Y	-
Nickel (ppb)	-	Q/Y	-
Selenium (ppb)	-	Q/Y	-
Silver (ppb)	-	Q/Y	-
Zinc (ppb)	-	Q/Y	-
EPA Method 601&602	M/B	M/B	Y
EPA Method 8270	-	Q/Y	Y
EPA Method 608	-	Q/Y	Y

LEGEND FOR TABLE A

TYPES OF SAMPLES

G = grab sample
C-24 = 24 hr. composite
Cont. = continuous sampling
DI = depth integrated sample
BS = bottom sediment sample
O = observation
- = none required

TYPES OF STATIONS

I = intake or influent stations
E = effluent sampling stations
D = discharge point sampling stations
C = receiving water sample stations
L = basin and/or pond levee stations
B = bottom sediment station
G = groundwater station

FREQUENCY OF SAMPLING

H = once each hour
D = once each day
W = once each week
M = once each month

Y = once each year in June

V = varies; total ammonia nitrogen shall be analyzed and un-ionized ammonia calculated whenever fish bioassay test results fail to meet the specified percent survival

2/W = 2 days per week
5/W = 5 days per week
2/M = 2 days per month
2/y = once in March and once in September
Q = quarterly, once in March, June, September, and December

W/M = weekly for first three months after startup of operations and reduced to monthly thereafter

W/Y = weekly for first three months after startup of operations and reduced to annually thereafter

M/Y = monthly for first 12 months after startup of operations and reduced to annually thereafter

2D = every 2 days
2W =every 2 weeks
3M = every 3 months
Cont = continuous

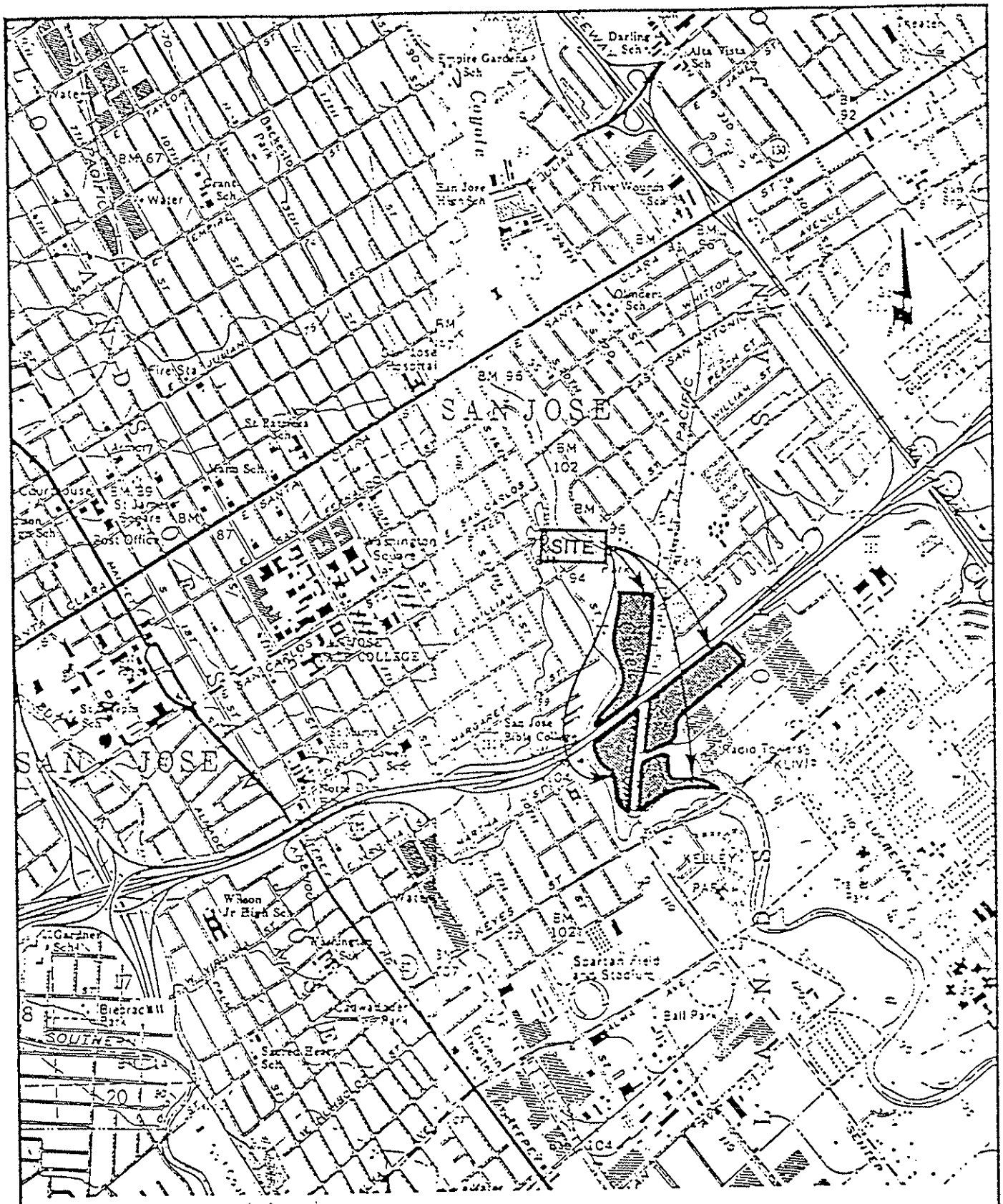
Q/Y = quarterly for first year after startup of operations and reduced to annually thereafter

W/Q = weekly for first three months after startup of operations and reduced to quarterly thereafter

M/B = monthly for first 12 months after startup of operations and reduced to every two months thereafter

M/Q = monthly for first three months after startup and reduced to quarterly thereafter

Note: Flow rate shall be recorded continuously and reported as total monthly flow and average daily flow. The average daily flow shall only include the days that the system was in operation.



BASE FROM U.S.G.S. SAN JOSE WEST AND SAN JOSE EAST QUADRANGLES, 7.5 MIN. SERIES, 1961. PHOTOREVISED 1980.

Figure 1 - Location Map - Story Road Landfill, San Jose, Santa Clara County

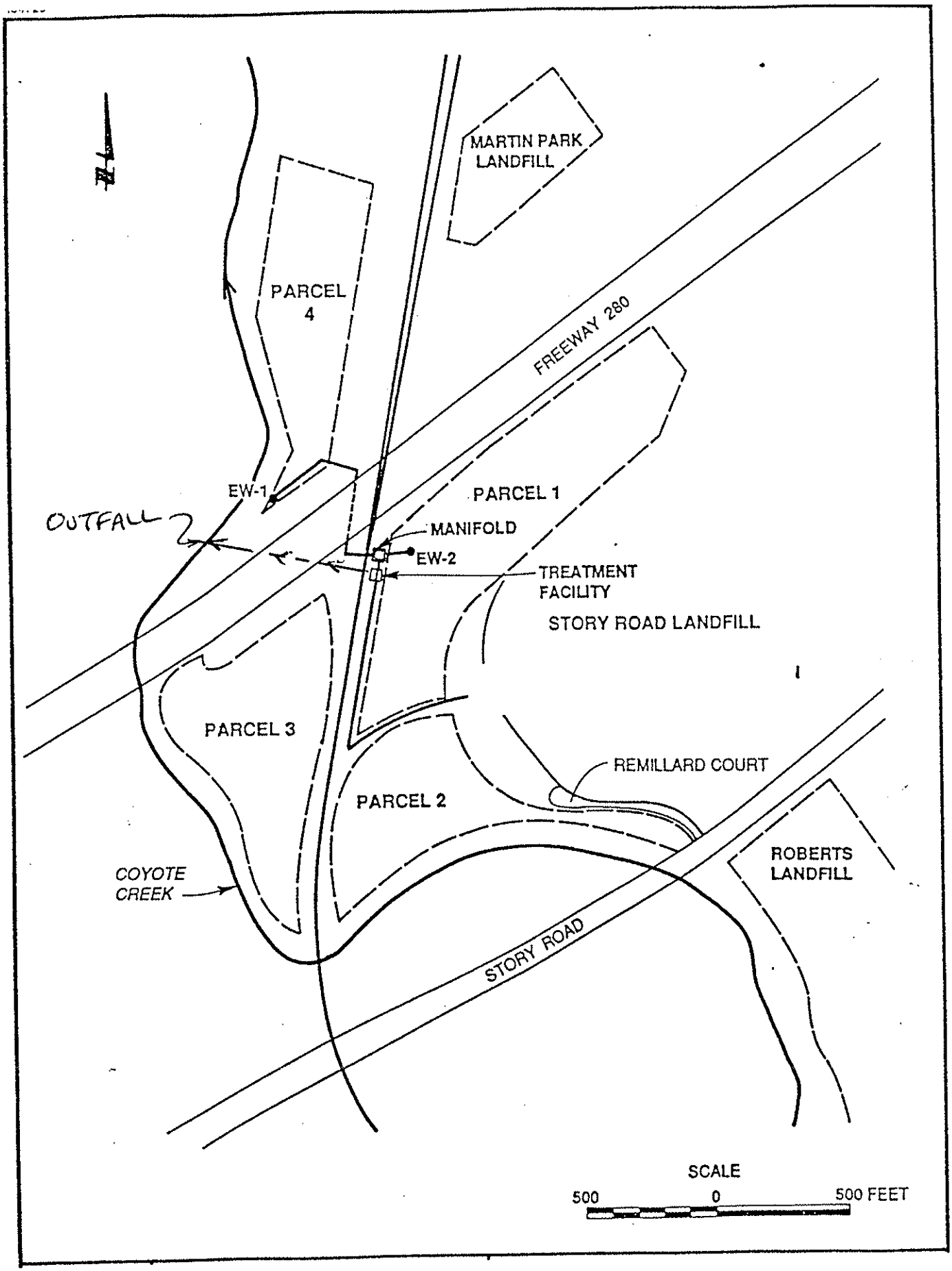


Figure 2 - Site Map - Story Road Landfill, San Jose, Santa Clara County